

Science 30	Unit B: Chemistry
Lesson 6 - Acid Base Review	84 mins

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Science 30 - Lesson 20 - Acid Base REVIEW

Name: _____

Practice Problems

1) Use the following information to classify each substance listed as either acidic, basic, or neutral.

- a) lake water with a pH of 7.9 _____
- b) gastric acid with a pH of 2.0 _____
- c) window cleaner with a hydronium-ion concentration of 2.23×10^{-10} mol/L _____
- d) rust remover with a hydronium-ion concentration of 5.72×10^{-3} mol/L _____

2) Indicators can be used to measure the pH of a solution.

a) Explain how indicators can be used for this purpose.

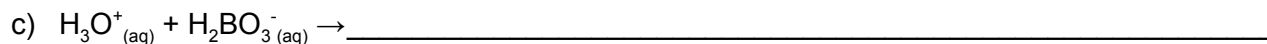
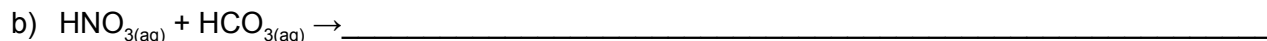
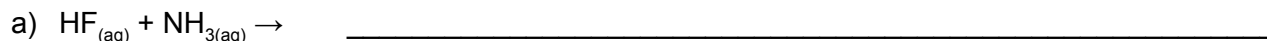
b) Explain the level of precision that is attainable using indicators to measure pH.

c) Identify one technology that can be used to measure pH and provides better precision than indicators.

3) State the name of the theory that identifies acid base reactions as involving the transfer of a hydrogen ion.

a) Identify which substance donates a hydrogen ion and which substance accepts a hydrogen ion during an acid - base reaction.

4) Complete the following reactions. Label the acid, the base, the conjugate acid, and the conjugate base in each reaction.



5) Explain how rainwater can naturally have a pH of around 5.5.

6) Explain how rainwater can have a pH lower than 5.5.

7) Use the following information to complete the statement.

Solution	pH or $[H_3O^+(aq)]$
1	12.4
2	1.20×10^{-2} mol/L
3	4.5×10^{-9} mol/L
4	5.6

The four solutions in order from most acidic to least acidic are _____, _____, _____, and _____.

8) "The solution to pollution is dilution." Use your knowledge of acidic deposition to build an argument that either agrees or disagrees with this statement.

9) Describe some of the long-term effects acidic deposition might have within your local area.

10) Describe actions being taken by groups within your community to study or reduce emissions that could lead to acid deposition. Describe how the groups are determining whether these actions are having any effect.

11) Define biomonitoring. Explain how biomonitoring is done within an ecosystem. Explain the importance of biomonitoring to the study of acid deposition.
